BSc in Psychology

Evaluation of possible work stressors: Research conducted in an Icelandic company

May, 2018
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Foreword

Submitted in partial fulfillment of the requirements of the BSc Psychology degree, Reykjavik University, this thesis is presented in the style of an article for submission to a peer-reviewed journal.
Abstract

Work stress is an increasing problem around the world affecting both employees and organizations. Due to globalization, the work environment has changed greatly the last decades resulting in different work methods, increased technology and increased demands. As a consequence, employees can experience increased work stress which can lead to decreased well-being, poorer job performance and therefore affect organizations as a whole. The aim of this study was to evaluate the effect of different work stressors on employees in an Icelandic company. It was also examined if the workplace stressors differed between departments and between supervisors and subordinates. Participants were 264 employees, who ranged from the age of 20-69 years. Stress was measured with the questionnaire Perceived Stress Scale (PSS-10) and the workplace stressors were measured with a section from the questionnaire A Shortened Stress Evaluation Tool (ASSET). The findings indicated that certain workplace stressors were associated with increased stress in employees. There was as also difference in experienced workplace stressors between departments and between supervisors and subordinates.

Keywords: Workplace stressors, work stress, employees, supervisors.

Útdráttur


Efnisord: Vinnutengd streita, vinnutengdir streituvaldar, starfsmenn, yfirsmenn.
Evaluation of possible work stressors: Research conducted in an Icelandic company

Work stress is an increasing problem with employees and organizations around the world. Over the past decades, organizations have changed greatly due to globalization, resulting in a change in working methods, working environments, technology and increased demands in efficiency and service (Hart & Cooper, 2001). The achievement of many organizations today is based on innovation and creativeness whereas the organization must adapt to the rapidly altering technology, clients demands, and necessity. That can result in high demands on the employee’s capability to carry out tasks (Rich, 2016), which increases work stress, causing employees numerous of unfavorable psychological and physical symptoms (DeFrank & Ivencevich, 1998). Employees are the most important part of an organization, and they are essential to its success (Zadeh & Aliporian, 2017) and increased work stress can take a toll on their job performance, productivity, and ambition, leading to increased errors, greater cost for the company, absenteeism, and turnovers (Furnham, 2005). The Health and Safety Executive (2017) reported that just over half a million employees in Great Britain suffer from work-related stress causing depression or anxiety, leading to a loss of 12.5 million working days per year.

Stress is a psychological, physical and behavioral response to a usually disturbing stimulus (stressor) from the environment (Schultz & Schultz, 2002). A stressor is an event, issue or a condition that can take place one time only, for example, a life trauma, or over a longer period and become chronic (Tennant, 2002). Stress responses can result in a variety of symptoms such as high blood pressure and dizziness to feeling irritated and being unable to cope with certain situations (Arnold, 2005). Work stress, on the other hand, is a mismatch in one’s appraisal of work demands and available resources (Kinman & Jones, 2005) or a change in the physical or mental state of an employee in response to a work environment that poses appraised challenge or threat (Colligan & Higgins, 2006). European Agency for Safety
and Health at Work [EU-OSHA] (2013) revealed that 51% of workers across 36 countries in Europe found work-related stress common. Similarly, The National Institute of Occupational Safety and Health (2014) found that 40% of employees in the United States found their job very or extremely stressful and 25% found their job the most stressful thing in their lives.

Increased work stress is a growing concern among managers in organizations, and it is essential for organizations to understand and develop interventions for their employees to reduce work stress. Therefore, it is first important to understand the effects and causes of work stress in organizations (Ongori & Agolla, 2008).

Throughout the literature different work stress theories, models and approaches have been proposed, with some gaining more support than others. One approach that has gained great support in the work stress literature is the transactional approach to stress (Cooper, Dewe, & O'Driscoll, 2001; Hart & Cooper, 2001). A transactional approach to stress indicates that stress is a result of a transaction or a process between the person and the environment. It emphasizes the constant change and interaction between personal and environmental variables, while other models and theories approach stress as more stable and unidirectional concept (Hart & Cooper, 2001). There are many theories and models based on the transactional approach, but the models that have highlighted the literature are the Transactional Model of Stress, Person-Environment Fit Model, Conservation of Resources Theory and The Job Demands-Control-Support Model (Dewe, O’Driscoll, & Cooper, 2012).

As mentioned before, these models all suggest that stress is an interaction between the person and the environment and the fundamental element in these models is the understanding of stressors.

Many different stressors have been linked to work stress, ranging from job characteristics, relationships at work and job insecurity (Eatough, Way, & Chang, 2012). Role factors such role ambiguity and role conflict have frequently been mentioned as
stressors affecting employees in the workplace (Nelson and Burke, 2000). Stressors such as workload, lack of time to finish one’s work, stressful environments, financial insecurities (Bland 1999), adaption to new technology, innovation, bringing new ideas and lack of support from colleagues, have been considered common in the workplace (Kirkcaldy, Trimpop, and Williams, 2002). That is consistent with an Icelandic study which revealed that 55% of employees in Iceland considered workload and working hours to be the most common stressor in the workplace and 48% reported job insecurity and job reorganization the most common stressor (EU-OSHA, 2013). Injustice in payments and benefits have also been recognized as stressors affecting employees (Spector, 2002). In relation to changing work and work environments, stressors such as career development might have a stronger impact on employees today than decades ago (Brock & Buckley, 2012). That might also apply to the stressor work-family balance (Fairbrother & Warn, 2003), especially for women, due to dual career couples (De Jonge and Dormann, 2003) and women still being the full caregiver in spite of working full-time (Bookman & Kimbrel, 2011).

The Cooper-Marshall stress model summarizes well which stressors can affect employees. It is frequently mentioned in the literature of work stress and has gained much support (Viääänänen, Anttila, Turtiainen, & Varje, 2012). The model states that work stress is divided into the six categories: factors intrinsic to the job itself (i.e. unsatisfactory working conditions and danger), role ambiguity (i.e. uncertainty about expectations, responsibilities and unclear information about one’s role), conflict (i.e. conflicting job demands and job tasks that are disliked or outside of specification), relations at work (i.e. relationships with superiors, colleagues and subordinates), career development (i.e. lack of job security, being stuck at the same level at work), organizational change and work-family balance (i.e. combining demands between work and home) (Cooper & Cartwright, 1994).
Stressors can vary between professions (Cooper and Cartwright, 1994), as well as between departments within the same organization (Cooper & Bramwell, 1992). Individuals working in finance, management or administration are often responsible for important decisions that can increase work stress, compared to individuals working in manufacturing or sales and services, where physical demands can be higher (Park, 2008). In relation to that, De Jonge and Dormann (2003), reported that the key stressor for individuals in sale and service jobs were demands from clients.

Stressors can also differ between subordinates and supervisors. Subordinates can experience less control at work, while they try to fulfill their responsibilities, knowing that their performance is being evaluated (Elangovan & Lin Xie, 2000).

To effectively reduce workplace stress it is essential to assess the stress level in the organization and assess the possible difference between departments. More importantly, to identify the stressors in the workplace itself and see if they are departmental or organizational wide (Levering, 1988). It is considered more cost-effective for organizations to initiate primary interventions, such as stress reduction, by regularly conducting stress audits to measure work stress, not only on individual employees but within the organization in whole. Organizations often initiate secondary and tertiary interventions such as stress management or helping employees to cope with work stress and offering them consultancy, which can often lead to less proactive actions. Organizations should rather address what they can change within the organization itself to reduce work stress and use primary and preventive interventions. By doing that, they increase the likelihood of a healthy organization which is successful, profitable, has healthy employees and maintains a healthy and satisfying work environment over time, in spite of any disturbance or change in the organization (Hart & Cooper (2001).
Based on the literature the aim of this study is to evaluate different workplace stressors on employees and three hypotheses are proposed. The first is that there is a difference in experienced workplace stressors between departments. The second is that there is a difference in experienced workplace stressors between supervisors and subordinates. The third is that workplace stressors are associated with increased perceived stress in employees.

**Method**

**Participants**

Participants were 264 employees of an Icelandic company, 209 men, 50 women and 5 not revealing their gender. Participants worked in Support, Manufacturing, Innovation and Sales and Service. Participants ranged from the age of 20 to 69 years, and the most common age range was 40-44 years (17.9%). The questionnaire was sent to all 628 employees of the company and the response rate was 42%. Participants were recruited with a convenience sample.

**Measures**

In this research, two questionnaires and demographical information were used for measures. All the questions were presented in Icelandic and English since the employees of the company were not all Icelandic speaking.

*Workplace stressors* were measured using the section Perceptions of Your Job from the questionnaire A Shortened Stress Evaluation Tool (ASSET) (Faragher, Cooper, & Cartwright, 2004). ASSET is used to screen organizations for potential work stress and consists overall of three sections, the previously mentioned Perceptions of Your Job, Organizational Commitment and Employee’s health. ASSET is based on Cooper’s and Marshall’s stress model from 1976 and on stressors that are considered a risk in a modern workplace. ASSET is considered effective, easy and quickly completed, which can increase the likelihood of a higher response rate. It is also considered a sufficient measurement
instrument for various types of employee groups, having excellent validity and being easy to interpret (Faragher et al., 2004). The questionnaire Perceptions of Your Job consists of 37 items (see Appendix A and B) and measures individual’s perception of work-related stressors in the workplace. The questionnaire divides into eight subscales that comprise common workplace stressors that are Work Relationships, Job Characteristics, Overload, Control, Job Security, Resources and Communication, Work-Life Balance and Pay and Benefits. The questions were rated on a 6-point Likert scale (1= Strongly disagree, 6= Strongly agree) where higher scores indicated higher levels of the stressor. According to Chomeya’s (2010) research, a 6-point Likert scale tends to have higher discrimination and higher reliability. The scores for ASSET are standardized using sten (standardized ten), with all scores presented on the scale of 1-10, with a mean of 5.5 and standard deviation of 2. The sten score is an alternative measure, where the score is relative to the rest of the company. Most of the individuals score between 3 and 8 and those who score lower or higher are considered more extreme. Mean scores < 3 indicate very low levels of the stressor, mean scores < 4 indicates low levels, mean scores that range from 4-7 are average, mean scores > 7 indicate high levels and mean scores > 8 indicate very high levels of the stressor (Clarke, & Cooper, 2004). The Icelandic version of the questionnaire used in this study was back-translated from English to Icelandic and approved by the instructor of this research.

A reliability analysis was conducted on the workplace stressors. Work relationships consists of 8 items with statements such as “I do not receive the support from others (boss/colleagues) that I would like”. The internal reliability of this scale in this study was acceptable (Cronbach’s α = 0.799). Job characteristics consist of 8 items as well, for example, “My physical working conditions are unpleasant (noisy, dirty, poorly designed)”. Internal reliability for the scale was low (Cronbach’s α = 0.471). Overload consists of 4 items such as “I am given unmanageable workloads”. The internal reliability of this scale was good
(Cronbach’s $\alpha = 0.808$). Control consists of 4 items such as ‘‘I am not involved in decisions affecting my job’’ and the internal reliability was acceptable (Cronbach’s $\alpha = 0.759$). Job security consists of 4 items such as ‘‘My job is not permanent,’’ and the internal reliability was low (Cronbach’s $\alpha = 0.536$). Resources and Communication consist of 4 items such as ‘‘I do not feel I am informed about what is going on in this organization’’ and the internal reliability was low (Cronbach’s $\alpha = 0.692$). Work-life balance consists of 4 items such as ‘‘My work interferes with my home and personal life’’ and the internal reliability was acceptable (Cronbach’s $\alpha = 0.786$). Pay and Benefits consist of a single item ‘‘My pay & benefits are not as good as other people doing the same or similar work’’ (Faragher et al., 2004). The Cronbach alpha coefficients for Work Relationships, Overload, Control, Resource and Communication and Work-Life Balance, meet the norm of $\alpha = 0.7$ rather well (Field, 2014). That is in accordance with Faragher et al. (2004) where they ranged from 0.602 to 0.837 and Coetzer & Rothmann (2006) where they ranged from 0.66 to 0.82. Job Characteristics and Job Security did not meet the norm, which is in accordance with Jackson’s and Rothmann’s (2006) reliability analysis, where the same factors were below the Cronbach’s alpha norm. Therefore, these factors should be interpreted with caution.

Perceived Stress Scale (PSS-10). PSS-10 (Cohen, Kamarck, & Mermelstein, 1983) measures to what extent individuals consider situations in their life stressful and consists of 10 questions (see Appendix C and D). Participants were asked questions about finding situations uncontrollable or unpredictable in the last month, such as ‘‘In the last month, how often have you been angered because of things that were outside of your control?’’. The questions were rated on a 5-point Likert scale (0 = Never, 1 = Almost never, 2 = Sometimes, 3 = Fairly Often, 4 = Very Often). The scores can range from 0-40, and the higher scores participants got, the higher levels of stress but according to Cohen & Williamson (1988) average score for participants in their research was 13.02. The Icelandic version of PSS-10
used in this research was translated by Juliusdottir & Hreinsdottir (2010). The internal reliability in this study was good (Cronbach’s $\alpha = 0.871$) which is in accordance with Cohen & Williamson (1988) where the internal reliability for PSS-10 was good ($\alpha = 0.78$). It is also in accordance with Roberti, Harrington, & Storch (2006) who conducted a psychometric evaluation on PSS-10 and found that the internal reliability was good ($\alpha = 0.89$).

**Demographic information.** Participants were asked questions about demographic information such as age, gender, what department they worked in, how long they had been employed with the company and if they had supervision over employees. These questions were the last part of the survey but according to Stoutenbourgh (2008) that might prevent breakoff from the survey.

**Procedure**

The section Perception of your job from ASSET questionnaire was back-translated to Icelandic twice. The translations were compared, and minor changes were made to make it sufficient. The questionnaires, ASSET, PSS-10 and the demographic questions were constructed using “QuestionPro”, an online survey software, in both Icelandic and English. The Icelandic survey was pre-tested with 15 participants who gave feedback which resulted in minor changes to the structure of the survey itself. Next, all participants were sent an email from the Human Resource Manager of the company with general information about the research, three days before receiving the survey. The survey was then sent to all participants via email on March 26 which contained links to both the Icelandic and English version of the survey and participants could choose either language for their convenience. Two days later a reminder was sent, and the third reminder was sent five days from the second one. Participants were asked to answer the questionnaire that was estimated to take 5-7 minutes and informed that all responses were confidential and untraceable back to individuals (See Appendix E).
Design and Data analysis

In the present study, a cross-sectional survey design with self-report questionnaire was used to collect data from the employees to evaluate stress and work-related stressors. The dependent variable in this study was stress (PSS-10), and the independent variables were workplace stressors (ASSET). Statistical Package for the Social Sciences (SPSS) and Excel were used to analyze the data. Descriptive statistics were computed to describe participants characteristics. To test the hypothesis, four different statistical tests were used. One-way ANOVA was conducted to determine if there was a statistically significant difference in experienced workplace stressors between departments. Bonferroni post-hoc test was used to determine where the difference was between the departments. Independent t-test was established to determine if there was a statistically significant difference on experienced workplace stressors between supervisors and subordinates. A Pearson correlation was conducted to assume the relationship between workplace stressors (ASSET) and perceived stress (PSS-10). Lastly, a Linear Regression Model was conducted to determine if workplace stressors were associated with increased stress and one-tailed significance test was used.

Results

Demographic information

Table 1 shows demographic characteristics for participants ($N = 264$) in relation to their employment at the company. Most of the participants worked in manufacturing or 29.5%, and most of the employees had been employed at the company for 1-4 years or 25.8%. Participants who supervised other employees were 19.1%. In Figure 1 the gender ratio for each department is displayed. Most of the females worked in Support (58%) and fewest in Innovation (10%). Most of the males worked in Manufacturing (33.9%) and fewest in Support (12.4%).
Table 1

Demographic Characteristics of Participants in Relation to The Company

<table>
<thead>
<tr>
<th>Department</th>
<th>Participants</th>
<th>Frequency (%)</th>
<th>Period of employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support</td>
<td>58 (22)</td>
<td>&lt; 1 year</td>
<td>52 (20)</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>78 (29.5)</td>
<td>1 - 4 years</td>
<td>67 (25.8)</td>
</tr>
<tr>
<td>Innovation</td>
<td>60 (22.7)</td>
<td>5 – 9 years</td>
<td>50 (19.2)</td>
</tr>
<tr>
<td>Sales and Service</td>
<td>68 (25.8)</td>
<td>10 – 14 years</td>
<td>36 (13.8)</td>
</tr>
<tr>
<td>Supervision</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>50 (19.1)</td>
<td>15 – 19 years</td>
<td>24 (9.2)</td>
</tr>
<tr>
<td>No</td>
<td>212 (80.9)</td>
<td>≥ 20 years</td>
<td>31 (11.9)</td>
</tr>
</tbody>
</table>

Figure 1. Gender distribution in each department.

Perceived Stress Scale

In Figure 2 scores for participants \((N = 243)\) on Perceived Stress Scales (PSS-10) are displayed. The mean score on PSS-10 was 12.97 \((SD = 6.4)\), with lowest score 1 and highest 31. The most frequent score was 15. In Figure 3 mean scores on PSS-10 for each department...
is displayed. Participants who worked in Innovation had the highest perceived stress or mean score 14. One-way ANOVA revealed that there was no significant difference in mean stress scores between departments $F (3, 239) = 2.259, p = .082$.

Figure 2. Participants score on Perceived Stress Scale (PSS-10).

Figure 3. Mean score on Perceived Stress Scale (PSS-10) by department.

ASSET

In Table 2, sten scores for workplace stressors for each department are displayed. The sten scores are all within the range of 4 and 6, indicating an average level of the stressor. The Workplace stressor that had the highest sten score overall was Work-Life Balance (6.4), in
both Innovation and Sales and Service. In Support, the stressor Work-Life Balance (5.9) had the highest sten score. In Manufacturing, the stressor Control (6.0) had the highest sten score.

Table 2

*Sten Scores for Workplace Stressors for Each Department*

<table>
<thead>
<tr>
<th></th>
<th>Support Sten</th>
<th>Manufacturing Sten</th>
<th>Innovation Sten</th>
<th>Sales and Service Sten</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work-Life Balance</td>
<td>5.9</td>
<td>4.3</td>
<td>6.4</td>
<td>6.4</td>
</tr>
<tr>
<td>Resource &amp; Com.</td>
<td>5.3</td>
<td>5.4</td>
<td>5.6</td>
<td>5.6</td>
</tr>
<tr>
<td>Work Relationsh.</td>
<td>5.8</td>
<td>5.3</td>
<td>5.3</td>
<td>5.3</td>
</tr>
<tr>
<td>Overload</td>
<td>5.8</td>
<td>4.6</td>
<td>5.8</td>
<td>5.8</td>
</tr>
<tr>
<td>Job Security</td>
<td>5.5</td>
<td>5.4</td>
<td>5.7</td>
<td>5.7</td>
</tr>
<tr>
<td>Job Characteristics</td>
<td>4.9</td>
<td>5.8</td>
<td>6.1</td>
<td>6.1</td>
</tr>
<tr>
<td>Control</td>
<td>4.9</td>
<td>6.0</td>
<td>5.5</td>
<td>5.5</td>
</tr>
<tr>
<td>Pay and benefits</td>
<td>5.3</td>
<td>5.7</td>
<td>5.7</td>
<td>5.7</td>
</tr>
</tbody>
</table>

*Note.* < 3 indicate very low levels of stressor, < 4 indicate low levels of stressor, 4-7 indicate average levels of stressor, > 7 indicate high levels of stressor and > 8 indicate very high levels of stressor.

In Table 3, means and standard deviation for workplace stressors for each department are displayed. One-way ANOVA revealed that there was a significant difference in experienced workplace stressors between departments in Work-Life Balance $F(3, 256) = 16.961, p = .00$, Job Characteristics $F(3, 247) = 5.528, p = .001$, Overload $F(3, 257) = 7.918, p = .001$ and Control $F(3, 256) = 3.117, p = .027$. Bonferroni post-hoc test ($p = .05$) revealed that participants who worked in Manufacturing ($M = 2.4, SD = 1.0$) experienced significantly more Work-Life Balance compared to participants working in Support ($M = 3.3, SD = 1.0$), Innovation ($M = 3.1, SD = 1.0$) and Sales and Service ($M = 3.6, SD = 1.2$). It also revealed that participants who worked in Support ($M = 2.8, SD = 1.0$), Innovation ($M = 2.9, SD = 1.0$) and Sales and Service ($M = 3.6, SD = 1.2$) experienced significantly more Work-Life Balance compared to participants working in Support ($M = 3.3, SD = 1.0$), Innovation ($M = 3.1, SD = 1.0$) and Sales and Service ($M = 3.6, SD = 1.2$). It also revealed that participants who worked in Support ($M = 2.8, SD = 1.0$), Innovation ($M = 2.9, SD = 1.0$) and Sales and Service ($M = 3.6, SD = 1.2$) experienced significantly more Work-Life Balance compared to participants working in Support ($M = 3.3, SD = 1.0$), Innovation ($M = 3.1, SD = 1.0$) and Sales and Service ($M = 3.6, SD = 1.2$). It also revealed that participants who worked in Support ($M = 2.8, SD = 1.0$), Innovation ($M = 2.9, SD = 1.0$) and Sales and Service ($M = 3.6, SD = 1.2$) experienced significantly more Work-Life Balance compared to participants working in Support ($M = 3.3, SD = 1.0$), Innovation ($M = 3.1, SD = 1.0$) and Sales and Service ($M = 3.6, SD = 1.2$). It also revealed that participants who worked in Support ($M = 2.8, SD = 1.0$), Innovation ($M = 2.9, SD = 1.0$) and Sales and Service ($M = 3.6, SD = 1.2$) experienced significantly more Work-Life Balance compared to participants working in Support ($M = 3.3, SD = 1.0$), Innovation ($M = 3.1, SD = 1.0$) and Sales and Service ($M = 3.6, SD = 1.2$). It also revealed that participants who worked in Support ($M = 2.8, SD = 1.0$), Innovation ($M = 2.9, SD = 1.0$) and Sales and Service ($M = 3.6, SD = 1.2$).
SD = 1.0) and Sales and Service (M = 2.8, SD = 1.0) experienced significantly more Overload than participants working in Manufacturing (M = 2.3, SD = 0.8). Participants who worked in Sales and Service (M = 2.8, SD = 0.6) experienced significantly higher levels of stressor relating to Job Characteristics compared to participants in Support (M = 2.4, SD = 0.6) and Manufacturing (M = 2.5, SD = 0.5). Lastly, participants in Support (M = 2.6, SD = 1.0) experienced significantly more Control compared to participants who worked in Innovation (M = 3.1, SD = 1.0).

Table 3

Means and Standard Deviation for Workplace Stressors for Each Department

<table>
<thead>
<tr>
<th></th>
<th>Support</th>
<th>Manufacturing</th>
<th>Innovation</th>
<th>Sales and Service</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
</tr>
<tr>
<td>Work-Life Balance</td>
<td>3.3 (1.0)</td>
<td>2.4 (0.9)</td>
<td>3.1 (1.0)</td>
<td>3.5 (1.2)</td>
</tr>
<tr>
<td>Resource &amp; Com.</td>
<td>2.6 (0.9)</td>
<td>2.7 (1.0)</td>
<td>2.8 (0.8)</td>
<td>2.8 (0.9)</td>
</tr>
<tr>
<td>Work Relationsh.</td>
<td>2.2 (0.8)</td>
<td>2.0 (0.7)</td>
<td>2.1 (0.6)</td>
<td>2.0 (0.7)</td>
</tr>
<tr>
<td>Overload</td>
<td>2.8 (1.0)</td>
<td>2.3 (0.8)</td>
<td>2.9 (1.0)</td>
<td>2.8 (1.0)</td>
</tr>
<tr>
<td>Job Security</td>
<td>2.9 (0.8)</td>
<td>2.8 (0.9)</td>
<td>2.8 (0.6)</td>
<td>2.9 (0.9)</td>
</tr>
<tr>
<td>Job Characteristics</td>
<td>2.4 (0.6)</td>
<td>2.5 (0.5)</td>
<td>2.7 (0.6)</td>
<td>2.8 (0.6)</td>
</tr>
<tr>
<td>Control</td>
<td>2.6 (1.0)</td>
<td>2.9 (1.0)</td>
<td>3.1 (1.0)</td>
<td>2.9 (0.8)</td>
</tr>
<tr>
<td>Pay and benefits</td>
<td>3.4 (1.4)</td>
<td>3.5 (1.3)</td>
<td>3.7 (1.3)</td>
<td>3.7 (1.4)</td>
</tr>
</tbody>
</table>

In Table 4, means and standard deviation for workplace stressors for supervisors and subordinates are displayed. Independent t-test revealed that these two groups were statistically significantly different on Work-Life Balance $t\ (256) = 2.601, p = .010$, Resource and Communication $t\ (257) = -3.140, p = .002$ and Control $t\ (256) = -2.689, p = .008$.

Participants with supervision had a significantly higher mean on Work-Life Balance.
compared to subordinates, indicating that supervisors experience less Work-Life Balance.

Subordinates had significantly higher means for Resource and Communication and Control compared to supervisors, indicating that subordinates experience less control and not as sufficient resources and communication.

Table 4

*Independent T-Test. Comparison of Means Between Supervisors and Subordinates on Workplace Stressors*

<table>
<thead>
<tr>
<th>Stressor</th>
<th>Supervisors</th>
<th>Subordinates</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work-Life Balance</td>
<td>49 3.4 1.1</td>
<td>209 2.9 1.1</td>
<td>2.601</td>
<td>.010</td>
</tr>
<tr>
<td>Resource and Communication</td>
<td>50 2.4 0.8</td>
<td>209 2.8 0.9</td>
<td>-3.140</td>
<td>.002</td>
</tr>
<tr>
<td>Work Relationships</td>
<td>49 2.0 0.6</td>
<td>210 2.1 0.7</td>
<td>-.925</td>
<td>.365</td>
</tr>
<tr>
<td>Overload</td>
<td>49 2.8 0.9</td>
<td>210 2.7 1.0</td>
<td>1.092</td>
<td>.276</td>
</tr>
<tr>
<td>Job Characteristics</td>
<td>47 2.5 0.5</td>
<td>202 2.6 0.6</td>
<td>-.871</td>
<td>.247</td>
</tr>
<tr>
<td>Job Security</td>
<td>50 2.8 0.7</td>
<td>198 2.9 0.8</td>
<td>-.814</td>
<td>.417</td>
</tr>
<tr>
<td>Control</td>
<td>49 2.6 0.9</td>
<td>209 3.0 1.0</td>
<td>-2.689</td>
<td>.008</td>
</tr>
<tr>
<td>Pay and Benefits</td>
<td>50 3.4 1.4</td>
<td>209 3.6 1.3</td>
<td>-1.049</td>
<td>.303</td>
</tr>
</tbody>
</table>

**Correlational analysis**

Assuming the relationship between workplace stressors (ASSET) and stress (PSS-10), a Pearson’s correlation coefficient was conducted and is displayed in Table 5. There was a significant positive relationship between Resource and Communication, Overload, Work Relationships, Job Characteristics, Control and perceived stress. Work Relationships had the strongest relationship with perceived stress ($r = .041$) in comparison to the rest. There was also a significant positive relationship between Work-Life Balance and Job Security and
perceived stress but with rather low correlation. The stressor Pay and Benefits did not have a statistically significant relationship to stress.

Table 5

*Correlation Statistics for Workplace Stressors (ASSET) and Perceived Stress (PSS-10)*

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
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<th>5</th>
<th>6</th>
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</thead>
<tbody>
<tr>
<td>Work-Life Balance</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Resource and</td>
<td>.19**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>communication</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overload</td>
<td>.57**</td>
<td>.50**</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Work Relationships</td>
<td>.18**</td>
<td>.66**</td>
<td>.52**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Security</td>
<td>.03</td>
<td>.37**</td>
<td>.20**</td>
<td>.40**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Characteristics</td>
<td>.31**</td>
<td>.51**</td>
<td>.51**</td>
<td>.47**</td>
<td>.28**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>.21**</td>
<td>.69**</td>
<td>.51**</td>
<td>.65**</td>
<td>.28**</td>
<td>.55**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pay and Benefits</td>
<td>.21**</td>
<td>.38**</td>
<td>.40**</td>
<td>.29**</td>
<td>.15</td>
<td>.32**</td>
<td>.27**</td>
<td></td>
</tr>
<tr>
<td>PSS</td>
<td>.27**</td>
<td>.35**</td>
<td>.40**</td>
<td>.41**</td>
<td>.24**</td>
<td>.34**</td>
<td>.33**</td>
<td>.07</td>
</tr>
</tbody>
</table>

*Note.* *p*<.05 **p**<.001.

Regression analysis

A linear regression analysis was conducted to determine if workplace stressors were associated with increased perceived stress in participants. As shown in Table 6 Work Relationships, Overload, Work-Life Balance and Pay and Benefits were all statistically significantly associated with perceived stress $F(8, 201)$, 9.623, $p = .000$ and explained 27.7% ($Adjusted R^2$) of the total variance in perceived stress. Work Relationships, Overload, and Work-Life Balance were all associated with increased stress. In other words, participants who experience inadequate work relationships, more overload and less work-life balance experienced increased stress. Pay and Benefits were associated with less perceived stress or
participants experienced less stress, even if having lower pay and benefits compared to co-workers.

Table 6

Linear Regression for Workplace Stressors (ASSET) and Perceived Stress (PSS-10)

<table>
<thead>
<tr>
<th>Stressor</th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work-life Balance</td>
<td>.766</td>
<td>.138</td>
<td>.066*</td>
</tr>
<tr>
<td>Resources and Communication</td>
<td>.296</td>
<td>.043</td>
<td>.655</td>
</tr>
<tr>
<td>Work relationships</td>
<td>2.246</td>
<td>.253</td>
<td>.006**</td>
</tr>
<tr>
<td>Overload</td>
<td>1.182</td>
<td>.184</td>
<td>.040*</td>
</tr>
<tr>
<td>Job Security</td>
<td>.456</td>
<td>.056</td>
<td>.408</td>
</tr>
<tr>
<td>Job Characteristics</td>
<td>1.225</td>
<td>.117</td>
<td>.141</td>
</tr>
<tr>
<td>Control</td>
<td>.126</td>
<td>.020</td>
<td>.833</td>
</tr>
<tr>
<td>Pay and Benefits</td>
<td>-1.085</td>
<td>-.234</td>
<td>.001**</td>
</tr>
</tbody>
</table>

Adjusted $R^2$ 0.277

$F$ 9.623

Note. *p<.05 **p<.01 (one-tailed).

Discussion

The present study aimed to evaluate workplace stressors in an Icelandic company and examine if there was a difference in experienced workplace stressors between departments and between supervisors and subordinates and if workplace stressors were associated with increased perceived stress in participants.

The hypothesis proposed, that there was a difference in experienced workplace stressors between departments, was confirmed partially. Results indicated that there was a difference in experienced workplace stressors between departments. That is in line with Cooper and Cartwright (1994), who reported that stressors could differ between departments within the same organization. It is also in line with Levering (1988) who reported that stressors could be departmental or organizational wide. In the present study participants who worked in Manufacturing experienced more balance when combining work and personal life,
and experienced less work overload compared to participants working in Support, Innovation and Sales and Service. Based on the literature in the present study, one possible explanation could be taken into consideration regarding the difference in work-life balance. That is the gender differences between Manufacturing where the majority are men, compared to Support where the gender ratio is almost equal. As reported by Fairbrother and Warn (2003), work-life balance is a stressor that has been increasing for the past decades, possibly as a result of dual career couples (De Jonge and Dormann, 2003), where full-time employed women are still the main caregivers (Bookman, & Kimbrel, 2011). Therefore, it is a possibility that participants in Manufacturing experienced more work-life balance compared to participants in Support, which has greater number of women. Next, participants who worked in Sales and Service experienced more workplace stressors related to the characteristics of the job itself (e.g., dealing with difficult customers, performance closely monitored) compared to participants working in Support and Manufacturing. That is consistent with De Jonge’s and Dormann’s (2003) findings that one of the main stressors for individuals in sales and service jobs are demands from customers. Finally, participants who worked in innovation experienced less control compared to participants working in Support.

The hypothesis regarding differences in experienced workplace stressors between supervisors and subordinates was confirmed partially. Results revealed that supervisors experienced less balance combining work and personal life compared to subordinates. On the other hand, subordinates experienced less control and not as sufficient resources and communication compared to supervisors. These results are in line with Elangovan & Lin Xie (2000) who reported that stressors could differ between supervisors and subordinates. They reported that subordinates could experience less control while fulfilling their responsibilities and knowing that their performance is begin evaluated, which could be a possibility in relation to these current findings in this study.
The hypothesis that workplace stressors were associated with increased perceived stress was confirmed partially, where Work-Life Balance, Work Relationships, and Overload were all associated with increased stress. Work relationships had the greatest effect on increased stress, indicating that inadequate work relationships could increase stress in participants. That is in line with Eatough et al. (2012), Bland (1999) and Kirkcaldy et al. (2002) that difficult relationships with co-workers can lead to stress at work. Overload had an effect as well on increased stress, indicating that the heavier work overload participants experience predicts to increased stress, which is in accordance to Bland (1999) and results from an opinion poll, where Icelandic employees experienced increased work stress because of workload (EU-OSHA, 2013). Work-Life Balance had also an effect on increased stress and indicates that low balance in work and personal life increases stress and that is in accordance with Fairbrother and Warn (2003). On the other hand, after the work stressors variables had been controlled, Pay and Benefits were associated to less perceived stress. Thus participants did not experience increased stress if they had lower or not as good pay and benefits in comparison to co-workers. These results are not in line with Spector (2002) were injustice in pay and benefits increase work stress. A possible explanation for these results is that participants experienced their pay and benefits as fair because they know that they are getting paid at the expected level and in accordance to their responsibilities (Jaques, 2013).

Other noteworthy results were that mean scores on PSS-10 for participants was 12.97, which is very close to what Cohen and Williamson (1988) found in their sample. In comparison to these prior results, the highest possible score on PSS-10 is 40, thus possibly indicating that participants did not experience very high stress. Regarding the workplace stressors, the results indicated that the workplace stressors within each department were in the range of 4-7. That indicates an average level of stressors and therefore participants were not experiencing high levels of any stressor in the organization. Lastly, the Cronbach’s alpha
for Job Characteristics and Job Security were below the norm of 0.7 (Field, 2014) and were therefore interpreted with caution. A possible explanation is that the questions within these scales are dissimilar and therefore measure different concepts, which can result in low Cronbach’s alpha (Tavakol & Dennick, 2011).

The present study has some limitations that should be mentioned. Firstly, the gender ratio was unequal where the majority of participants were male, which could be limiting to the external validity of the study. Moreover, the participants were recruited with convenience sample and according to Passmore & Baker (2005) can findings from convenience sampling represent the population inaccurately. A self-report measure was used to gather data which can limit the credibility of the findings (Paulhus & Vazire 2007). This study is also cross-sectional and does therefore not evaluate how the stressors affect participants over time, whereas it is necessary to understand long-term effect of workplace stress (Hart & Cooper, 2001; Nixon, Mazzola, Bauer, Krueger, & Spector, 2011) because the consequence of work stress can develop over time as physical symptoms take a longer time to develop compared to anxiety for example (Ford et al., 2014).

One of the strengths of the study is that participants were many in proportion to the company which can increase the generalizability. Another strength is that the ASSET questionnaire measures multiple work stressors and in fact the majority of workplace stressors mentioned in the literature, which is not always the case in other questionnaires. Regarding that, it is important to not pre-determine what workplace stressors could affect employees by choosing questionnaires that measure only a few of them, otherwise possibly overlooking what is affecting participants. From a practical point of view, these findings provide important information on workplace stressors and that some of them differ between departments and between supervisors and subordinates. With that in mind, organizations could imply interventions based on the fact, when reducing work stress, because there is a
possibility that one specific intervention for the whole company does not necessarily suit every department and occupation.

Future research should emphasize longitudinal research, as mention earlier it is essential to understand how the effect of work stress develops over time. In the present study participants were only asked about behavioral and psychological symptoms of stress but future research should measure physical symptoms as well. Differences in experienced work stress between genders should be considered. It should also examine the symptoms of burnout in employees compared to symptoms of work stress to discriminate between the two. Lastly, a comparison of interventions customized for departments in organizations and interventions customized for the whole organization should be conducted to see which is more effective in reducing work stress.
References


Chomeya, R. (2010). Quality of psychology test between Likert scale 5 and 6 points. *Journal of Social Sciences, 6*(3), 399-403.


Appendix A

A Shortened Stress Evaluation Tool (ASSET) (English)

Choose one of the six categories from *Strongly disagree* to *Strongly agree* for each statement as it applies to you.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Slightly disagree</td>
<td>Slightly agree</td>
<td>Agree</td>
<td>Strongly agree</td>
</tr>
<tr>
<td>1.</td>
<td>Strongly disagree</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2.</td>
<td>Strongly disagree</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>3.</td>
<td>Strongly disagree</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4.</td>
<td>Strongly disagree</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>5.</td>
<td>Strongly disagree</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6.</td>
<td>Strongly disagree</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7.</td>
<td>Strongly disagree</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>8.</td>
<td>Strongly disagree</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>9.</td>
<td>Strongly disagree</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>10.</td>
<td>Strongly disagree</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>11.</td>
<td>Strongly disagree</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>12.</td>
<td>Strongly disagree</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>13.</td>
<td>Strongly disagree</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>14.</td>
<td>Strongly disagree</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>15.</td>
<td>Strongly disagree</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

1. I work longer hours than I choose or want...
2. I work unsociable hours e.g. weekends, shift work etc...
3. I spend too much time travelling in my job...
4. I have little control over many aspects of my job...
5. My work interferes with my home and personal life...
6. I may be doing the same job for the next 5 to 10 years...
7. My physical working conditions are unpleasant (e.g. noisy, dirty, poorly designed)
8. My job involves the risk of actual physical violence
9. My boss behaves in an intimidating and bullying way towards me...
10. My performance at work is closely monitored...
11. I do not receive the support from others (boss/colleagues)
12. My job is insecure
13. My job is not permanent
14. My pay & benefits are not as good as other people doing the same or similar work
15. The technology in my job has overloaded me
16. My organization is constantly changing for change's sake........1 2 3 4 5 6
17. My work is dull and repetitive.................................................1 2 3 4 5 6
18. I feel isolated at work e.g. working on my own or lack of social support from others.................................................................1 2 3 4 5 6
19. I am not sure what is expected of me by my boss......................1 2 3 4 5 6
20. Other people at work are not pulling their weight.....................1 2 3 4 5 6
21. I am set unrealistic deadlines...................................................1 2 3 4 5 6
22. I am given unmanageable workloads........................................1 2 3 4 5 6
23. My boss is forever finding fault with what I do..........................1 2 3 4 5 6
24. Others take the credit for what I have achieved..........................1 2 3 4 5 6
25. I have to deal with difficult customers/clients.............................1 2 3 4 5 6
26. My relationships with colleagues are poor...................................1 2 3 4 5 6
27. I do not feel I am informed about what is going on in this organization.................................................................1 2 3 4 5 6
28. I am never told if I am doing a good job.....................................1 2 3 4 5 6
29. I am not involved in decisions affecting my job............................1 2 3 4 5 6
30. I am not adequately trained to do many aspects of my job..........1 2 3 4 5 6
31. I do not have the proper equipment or resources to do my job......1 2 3 4 5 6
32. I do not have enough time to do my job as well as I would like.....1 2 3 4 5 6
33. My job is likely to change in the future.....................................1 2 3 4 5 6
34. My job skills may become redundant in the near future.............1 2 3 4 5 6
35. My ideas or suggestions about my job are not taken into account.................................................................1 2 3 4 5 6
36. I have little or no influence over my performance targets.........1 2 3 4 5 6
37. I do not enjoy my job.................................................................1 2 3 4 5 6
Appendix B
A Shortened Stress Evaluation Tool (ASSET) (Icelandic)

Vinsamlegast merktu í einn af þeim sex valmöguleikum eftir því hvaðu ósammála eða sammála þú eftirfarandi fullyrðingum.

<table>
<thead>
<tr>
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<th>3</th>
<th>4</th>
<th>5</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Mjög</td>
<td>Ósammála</td>
<td>Nokkuð</td>
<td>Ósammála</td>
<td>Sammála</td>
<td>Ósammála</td>
</tr>
<tr>
<td>ósammála</td>
<td>sammála</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Vinnutíminn minn er lengri en ég kýs………………………………………1 2 3 4 5 6
2. Vinnutíminn minn er utan venjulegs vinnutíma, t.d. um kvöldin og um helgar…………………………………………………………1 2 3 4 5 6
3. Í starfi mínu ver ég of miklum tíma í að ferðast……………………1 2 3 4 5 6
4. Ég hef litla stjórn á mórgum þáttum í starfi mínu…………………1 2 3 4 5 6
5. Starf mitt stangast á við einkalíf mitt……………………………………1 2 3 4 5 6
6. Ég geri ráð fyrir að starf mitt muni vera óbreytt næstu
   5 til 10 árin………………………………………………………………………………1 2 3 4 5 6
7. Vinnuaðstaða mín er óþægileg (til dæmis mikill hávaði, óhreinindi, illa hönnuð vinnuaðstaða) ……………………………………………………………1 2 3 4 5 6
8. Starf mitt felur í sér hættu á líkamlegu ofbeldi………………………1 2 3 4 5 6
9. Framkoma yfirmanns mínis gagnvart mér er ógnandi og hann hefur í frammi eineltistilburði………………………………………………1 2 3 4 5 6
10. Það er fylgst náið með frammistöðu minni í vinnunni…………………..1 2 3 4 5 6
11. Ég fæ ekki þann stuðning frá öðrum (yfirmanni/samstarfsfélögum)
    eins ég myndi óska……………………………………………………………………1 2 3 4 5 6
12. Starfsöryggi mitt er lítið……………………………………………………………1 2 3 4 5 6
13. Starf mitt er ekki vananlegt………………………………………………………1 2 3 4 5 6
14. Tekjur mínar og hlunnindi eru ekki jafn gőð og hjá öðrum einstaklingum í sömu eða
    svipaðri stöðu og ég……………………………………………………………………1 2 3 4 5 6
15. Êg upplifi of mikið álag tengt þeirri tækn sem notuð er
   í starfi mínu……………………………………………………………………………………………………………………1 2 3 4 5 6

16. Fyrirtækjð sem ég starfa hjá er stöðugt að breytast að
   ástæðulausu…………………………………………………………………………………………………………………………1 2 3 4 5 6

17. Starf mitt er óspennandi og einhæft…………………………………………………………………………………………..1 2 3 4 5 6

18. Á vinnustað mínum upplifi ég að ég standi ein/einn,
   t.d. vinn ég lítið með óðrum og fæ líttinn stuðning…………………………………………………………………….1 2 3 4 5 6

19. Êg veit ekki hvers yfirmaður minn ælast af mér……………………………………………………1 2 3 4 5 6

20. Samstarfsfelagar mínir leggja ekki hart að sér í starfi……………………………………………………………………1 2 3 4 5 6

21. Það eru gerðar óraunhæfar kröfur til mín, t.d. hvað varðar tíma
   til að vinnna verkefni…………………………………………………………………………………………………………………………1 2 3 4 5 6

22. Vinnualag mitt er óviðráðanlegt……………………………………………………………………………………………….1 2 3 4 5 6

23. Yfirmaður minn setur sífellt út á það sem ég geri………………………………………………………………………………1 2 3 4 5 6

24. Aðrir eigna sér heiður fyrir það sem ég hef afrekað…………………………………………………………………………1 2 3 4 5 6

25. Êg þarf að takast á við erfiða viðskiptavini……………………………………………………………………………….1 2 3 4 5 6

26. Samband mitt við samstarfsfelaga er lélegt…………………………………………………………………………………………1 2 3 4 5 6

27. Mér finnst ég ekki upplýst/ur um það sem er í gangi
   í fyrirtækinu……………………………………………………………………………………………………………………………………1 2 3 4 5 6

28. Mér er aldrei hrósað fyrir vel unnin störf………………………………………………………………………………………….1 2 3 4 5 6

29. Êg fæ ekki að taka þátt í þeim ákvörðunum sem hafa áhrif
   á starf mitt…………………………………………………………………………………………………………………………………….1 2 3 4 5 6

30. Êg hef ekki fengið nægilega þjálfun til þess að sinna ýmsum
   hliðum starfsins……………………………………………………………………………………………………………………………….1 2 3 4 5 6

31. Êg hef ekki viðeigandi búnað eða aðföng til þess að sinna
   starfi mínu…………………………………………………………………………………………………………………………………….1 2 3 4 5 6
32. Ég hef ekki nægan tíma til þess að sinna starfi mínu eins vel
og mér þætti ákjósanlegast...........................................................1 2 3 4 5 6

33. Starf mitt er líklegt til þess að breytast í framtíðinni..................1 2 3 4 5 6

34. Þekking mín í starfí gæti orðið úreld í náinni framtíð.....................1 2 3 4 5 6

35. Það er ekki tekið mark á hugmyndum eða tillógum
mínnum um starfí mitt. .................................................................1 2 3 4 5 6

36. Ég hef lítil eða engin áhrif á árangurstengd markmið mín í starfí...1 2 3 4 5 6

37. Mér líkar ekki starfí mitt..........................................................1 2 3 4 5 6
Appendix C

Perceived Stress Scale (PSS-10) (English)

The questions in this scale ask you about your feelings and thoughts during the **last month**.

Please tick the appropriate box depending on **how often** you felt or thought a certain way.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>Almost never</td>
<td>Sometimes</td>
<td>Fairly often</td>
<td>Very often</td>
<td></td>
</tr>
<tr>
<td>1. In the last month, how often have you been upset because of something that happened unexpectedly?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. In the last month, how often have you felt that you were unable to control the important things in your life?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. In the last month, how often have you felt nervous and “stressed”?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. In the last month, how often have you felt confident about your ability to handle your personal problems?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. In the last month, how often have you felt that things were going your way?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. In the last month, how often have you found that you could not cope with all the things that you had to do?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. In the last month, how often have you been able to control irritations in your life?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. In the last month, how often have you felt that you were on top of things?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. In the last month, how often have you been angered because of things that were outside of your control?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Appendix D

Perceived Stress Scale (PSS-10) (Icelandic)

Spurningarnar á þessum kvarða eru um tilfinningarnar þínar og hugsanir síðastliðinn mánuð.

Vinsamlegast merktu í viðeigandi reit hversu oft þú hugsaðir eða þér leið á ákvæðinn hátt.

1. Hversu oft síðastliðinn mánuð hefur þú farið úr jafnvægi vegna einhvers sem kom óvænt upp á?

2. Hversu oft síðastliðinn mánuð hefur þér fundist sem þú værir ekki fær um að hafa stjórn á mikilvægum þáttum í lífi þínu?

3. Hversu oft síðastliðinn mánuð hefur þér fundist þú vera táugaóstyrk(ur) og stressuð/aður?

4. Hversu oft síðastliðinn mánuð hefur þú verið örugg(ur) um getu þína til að fást við eigin vandamál?

5. Hversu oft síðastliðinn mánuð hefur þér fundist hlutirnir ganga þér í hag?

6. Hversu oft síðastliðinn mánuð hefur þér fundist að þú gætir ekki ráðið við allt það sem þú þurftir að gera?

7. Hversu oft síðastliðinn mánuð hefur þú getað haft stjórn á hlutunum í lífi þínu sem hafa skapraunað þér?

8. Hversu oft síðastliðinn mánuð hefur þér fundist þú hafa vald á hlutunum?

9. Hversu oft síðastliðinn mánuð hefur þú orðið reið(ur) vegna einhvers sem þú gast ekki haft áhrif á?

10. Hversu oft síðastliðinn mánuð hefur þér fundist vandamálin hrannast upp þannig að þú gætir ekki sigrast á þeim?
Appendix E

Information for participants regarding the study

Dear recipient,

The following questionnaire is a part of my BSc thesis in psychology at Reykjavík University. The instructor for this study is Katrín Ólafsdóttir assistant professor at Reykjavík University. The aim of this study is to evaluate factors influencing work stress at X.

Participation involves answering questions that evaluate stress and common organizational work stressors. The questions are answered online, and it is estimated to take 5-7 minutes to answer them.

All responses are confidential and cannot be traced back to individuals. There is no obligation to answer single questions or the whole questionnaire and it is possible to cancel participation at any time.

I would really appreciate it if you could answer the questionnaire.

If any questions arise please contact me via email at sandrar15@ru.is.

Thank you for your participation,

Sandra Lind Ragnarsdóttir

Ágæti viðtakandi,

Eftirfarandi spurningakönnun er hluti af rannsókn minni til BSc gráðu í sálfræði við Háskólann í Reykjavík. Leiðbeinandi er Katrín Ólafsdóttir lektor við Háskólann í Reykjavík. Markmið rannsóknarinnar er að kanna áhrifaðætti vinnustreitu hjá starfsmönnum X.

Þátttaka felur í sér að svara spurningum sem meta streitu og algenga streituvalda innan fyrirtækja. Spurningunum er svarað á netinu og áætlð er að það taki um 5-7 mínútur að svara þeim.

Ekki er hægt að rekja einstaka svör til þátttakenda og er fullum trúnaði heitíð. Hvorki er skylt að svara einstaka spurningum né spurningalistanum í heild sinni og frjálst er að hætta þátttöku hvenær sem er.

Það væri mér mikils virði ef þú sær þér fært um að svara spurningalistanum.

Ef að einhverjar spurningar vakna endilega hafðu samband í gegnum tölvupóst á netfangið sandrar15@ru.is.

Með fyrirfram þökk um þátttöku,

Sandra Lind Ragnarsdóttir